

REMARKS/ARGUMENTS

Claims 3, 9 and 18 are cancelled; Claims 21-22 are new.

Amended Claim 1 is supported, for example, at previously presented Claim 1, at specification page 4, lines 15-18 and lines 24-28. Amended Claims 2, 4-8, and 10-13 are supported, for example, respectively, at previously presented Claims 2, 4-8, and 10-13.

Amended Claim 14 is supported, for example, at previously presented Claims 14 and 1. New Claims 21 and 22 are supported, for example, at specification page 9, Examples 1-3, Table.

No new matter is added.

Responsive to paragraph 2 of the Official Action, Applicants previously filed a Request for priority indicating that a certified copy of the German Priority Application were filed in a timely manner with the International Bureau (a copy of the Request is enclosed with this paper).

Present Claim 1 is drawn to a composition comprising a polymer, water, and a surfactant, wherein the polymer is polymerized from a polymer dispersion comprising:

(i) an unsaturated silane selected from vinyltrimethoxysilane, vinyltriethoxysilane, vinyltri(2-methoxyethoxy)silane, vinylmethyldimethoxysilane, vinylmethyldiethoxysilane, and combinations thereof, (ii) an organosilane selected from methyltrimethoxysilane, n-propyltrimethoxysilane, n-propyltriethoxysilane, n-propyltri(2-methoxyethoxy)silane, isobutyltrimethoxysilane, isobutyltriethoxysilane, n-hexyltrimethoxysilane, n-octyltrimethoxysilane, n-octyltriethoxysilane, isooctyltrimethoxysilane, isooctyltriethoxysilane, n-hexadecyltrimethoxysilane, propyltrimethoxysilane, and combinations thereof, a monomer, a surfactant, and water; wherein in the polymer dispersion, the weight ratio of the monomer to the water is from 40:60 to 55:45, the water has a surfactant content of from 8.8% to 15% by weight of the water, the amount of the components (i) and (ii) ranges from 0.2 to 1.5% by weight, based on the weight of the

monomer, and wherein components (i) and (ii), and the monomer are incorporated into the polymer by polymerization of the polymer dispersion.

**The written description rejection of Claim 1** is traversed.

The Office, at pages 2 and 3 of the Official Action, asserts “the presently amended claim 1 recites the limitation ‘wherein the water has a surfactant content of from 8.8% to 15% by wt. of water.’ The specification does not provide support for the claimed end point of 8.8% by water... [because the] examiner notes that the disclosed amount of 8.8% in the working examples is specific to octylphenol ethoxylate as the surfactant, to the specific monomers and organosilanes used therein and not generic to the monomers and organosilanes as presently recited in amended claim 1.”

Responsive to the Office’s assertions, Applicants note the polymer dispersion from which the polymer of the composition of present Claim 1 is polymerized contains a component (i) that is one or more vinyl silanes, a component (ii) that is one or more alkyl silanes, a monomer, a surfactant, and water. As such, the genus of the polymer dispersion in present Claim 1 is exemplified by, for example, representative Examples 1-3, specification page 9, Table, that employ, prior to polymerization, polymer dispersions containing a vinyl silane, a alkyl silane, one or more monomers (e.g., a monomer), water, and a surfactant, and the compositions that include the polymer resulting from the polymerization of the polymer dispersions. Accordingly, present Claim 1, as amended, moots the Office’s assertion that “the disclosed amount of the disclosed amount of 8.8% in the working examples is specific to octylphenol ethoxylate as the surfactant, to the specific monomers and organosilanes used therein and not generic to the monomers and organosilanes as presently recited in amended claim 1.”

Further, the Office's basis for rejecting Claim 1 is flawed because the Office fails to take into account M.P.E.P. § 2163.05(III) and In re Wertheim. § 2163.05(III), describes, in part "[i]n the decision in In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976), the ranges described in the original specification included a range of "25%- 60%" and specific examples of "36%" and "50%." A corresponding new claim limitation ... to "between 35% and 60%" did meet the [written] description requirement." Specification page 5, lines 20-21 describes "[i]n the process of the invention it is preferred to employ an aqueous surfactant solution having a surfactant content of from 5 to 15% by weight." As acknowledged by the Office, *supra*, the working examples disclose 8.8% by weight of a surfactant content (e.g., octylphenol ethoxylate). Accordingly, based on § 2163.05(III) and In re Wertheim, it is proper to combine "5 to 15% by weight" and "8.8% by weight" to arrive at the Claim 1 feature "wherein the water has a surfactant content of from 8.8% to 15% by wt. of water." The Office, in making the rejection, appears to be attempting to make new law in contradiction to § 2163.05(III) and In re Wertheim by requiring, apparently, examples showing every possible combination of a surfactant and the other components in Claim 1 before concluding that the combination of "5 to 15% by weight" and "8.8% by weight" meets the written description requirement. This is impermissible. Withdrawal of the written description rejection of Claim 1 requested.

**The written description rejection of Claims 7 and 18** is mooted by amendment of Claim 7 to remove the term "polyvinylacrylate" and cancellation of Claim 18. Withdrawal of the rejection is requested.

**The indefiniteness rejection of Claim 1** is mooted by the amendment of Claim 1 to describe a composition that includes a polymer, where the polymer is polymerized from a polymer dispersion as described in Claim 1. Withdrawal of the rejection is requested.

**The obviousness rejection of Claims 1-2, 4-8, 10-17, and 19-20** as being unpatentable in view of Eck is traversed. Eck is drawn to “a dispersion powder composition which is redispersible in water and is made from water-insoluble homopolymers or copolymers of preferably ethylenically unsaturated monomers and one or more organosilicon compounds plus, optionally, other additives” (see the Abstract of Eck). The Office acknowledges that Eck “fails to disclose compositions that satisfy the presently claimed wt. ratio for water to surfactant and monomer to water” (see page 5 of the Official Action) but reasons “differences in concentration...will not support patentability of the subject matter ...unless there is evidence indicating such concentration...is critical.”

At the outset, the obviousness rejection is improper because Eck does not describe or suggest all of the features of present Claim 1 and the claims depending therefrom. Present Claim 1 contains the feature “wherein the water has a surfactant content of from 8.8% to 15% by weight of the water.” Eck, at column 6, lines 28-30, describes “[t]he emulsifiers are...employed in an amount of 0 to 6% by weight, based on the total weight of the monomers.” In the polymer dispersion in present Claim 1, the polymer is formed from polymerization of the monomer, component (i) and component (ii). The polymer dispersion is an aqueous dispersion, wherein the amount of water, relative to the amount of monomer present prior to polymerization, is given in a monomer:water weight ratio. Thus, for example, when the monomer:water weight ratio is 55:45, the amount of monomer can be, for this exemplary calculation, 55 g and the amount of water would be 45g. The lowest possible amount of surfactant in the water ranges is 8.8% by weight of the water. Thus, in this exemplary calculation,  $8.8\% \times 45 \text{ g} = 3.96 \text{ g}$  surfactant. The percent of surfactant present, based on the total weight of the monomer, would be  $(3.96 \text{ g} / 55 \text{ g}) \times 100\% = 7.2\%$ . 7.2% surfactant, based on the total weight of the monomer, is greater than the maximum amount of surfactant allowed by Eck (e.g., 6%). Accordingly Eck, does not describe or

suggest all of the features of present Claim 1 and the claims depending therefrom.

Withdrawal of the obviousness rejection is requested on this basis alone.

Additionally, Applicants traverse the obviousness rejection because Eck “teaches away from” at least one feature of present Claim 1. M.P.E.P. § 2141.02(VI) describes, in part, “[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention” (emphasis added). The Office’s rejection is improper because the Office, in making the rejection, failed to adhere to § 2141.02(VI) and did not consider the teachings of Eck as a whole, including portions of Eck that would “teach away from” the claimed invention. Eck, at column 6, lines 28-30, describes “[t]he emulsifiers are...employed in an amount of 0 to 6% by weight, based on the total weight of the monomers.” As described, *supra*, the lowest possible amount of surfactant in the water is 8.8% by weight of the water. Thus, in the exemplary calculation, *supra*,  $8.8\% * 45 \text{ g} = 3.96 \text{ g surfactant}$ . The percent of surfactant present, based on the total weight of the monomer, would be  $(3.96\text{g} / 55\text{g}) * 100\% = 7.2\%$ . 7.2% surfactant, based on the total weight of the monomer, is greater than the maximum amount of surfactant allowed by Eck (e.g., 6%). One of ordinary skill in the art, reading Eck as a whole, would not be motivated, as the Office attempts to assert, *supra*, to employ surfactant in an amount greater than 6% by weight, based on the total weight of the monomers, because Eck specifically limits the amount of surfactant to “0 to 6% by weight, based on the total weight of the monomers.” Withdrawal of the obviousness rejection is requested on this basis alone.

Finally, Applicants traverse the obviousness rejection on the basis of superior and unexpected results. Applicants note the polymer dispersion from which the polymer of the composition of present Claim 1 is polymerized contains a component (i) that is one or more vinyl silanes, a component (ii) that is one or more alkyl silanes, a monomer, a surfactant, and

water. As such, the genus of the polymer dispersion of present Claim 1 is exemplified by, for example, representative Examples 1-3, specification page 9, Table, that employ, prior to polymerization, polymer dispersions containing a vinyl silane, a alkyl silane, one or more monomers (e.g., a monomer), water, and a surfactant, and the compositions that include the polymer resulting from the polymerization of the polymer dispersion.

Thus, Examples 1-3, Table, specification page 9, are representative of the composition of present Claim 1 and the claims depending therefrom.

Table 1, specification page 10, is reproduced below:

**Table 1:**  
**Results of adhesion testing**

Substrates coated with polymer dispersion from	Substrate				Test criterion
	Al	Glass	PVC	Concrete	
Comp. Ex. 1	--	--	+-	++	Adhesion
Comp. Ex. 2	+-	+-	+-	++	Adhesion
Example 1	oo	oo	++	++	Adhesion
Example 2	+-	+-	++	++	Adhesion
Example 3	--	+-	++	++	Adhesion

Evaluation scale: (++) very good)( +- good)( -- poor) (oo very poor)

As shown in Table 1, the compositions of Examples 1-3 that contained a polymer that incorporated, during polymerization, both a vinyl silane and an alkyl silane, displayed improved adhesion to PVC relative to Comparative Examples 1 and 2 that do not contain a polymer that incorporated, during polymerization, both a vinyl silane and an alkyl silane. Eck does not describe or suggest improved adhesion to PVC. Accordingly, this superior result, based on the disclosure of Eck, is an unexpected result.

Table 2, specification page 11, is reproduced below:



**Table 2:**  
**Results of elasticity testing**

Substrates coated with polymer dispersion from	Substrate				Test criterion
	Al	Glass	PVC	Concrete	
Comp. Ex. 1	oo	oo	oo	oo	Elasticity
Comp. Ex. 2	+-	+-	+-	+-	Elasticity
Example 1	++	++	++	++	Elasticity
Example 2	+-	+-	+-	++	Elasticity
Example 3	+-	+-	+-	++	Elasticity

Evaluation scale: (++) very good) (+- good) ( -- poor) (oo very poor)

As shown in Table 2, the compositions of Examples 1-3 that contained a polymer that incorporated, during polymerization, both a vinyl silane and an alkyl silane, displayed improved elasticity when adhered to concrete relative to Comparative Examples 1 and 2 that do not contain a polymer that incorporated, during polymerization, both a vinyl silane and an alkyl silane. Eck does not describe or suggest improved elasticity when adhered to concrete. Accordingly, this superior result, based on the disclosure of Eck, is an unexpected result.

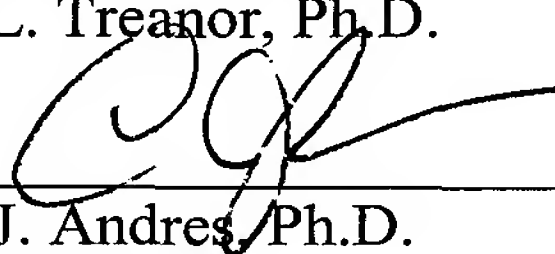
Applicants submit the superior and unexpected results of improved adhesion to PVC and improved elasticity when adhered to concrete are exactly the type of secondary considerations envisioned by the M.P.E.P. to address a *prima facie* case of obviousness. Withdrawal of the obviousness rejection is requested on this basis alone.

Application No. 10/566,371  
Reply to Office Action of August 13, 2009

Applicants submit the present application is now in condition for allowance. Early notification to this effect is earnestly solicited.

Respectfully submitted,

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Dieter BARFURTH, et al.

SERIAL NO.: NEW U.S. PCT APPLICATION

FILED: HERewith

INTERNATIONAL APPLICATION NO.: PCT/EP04/50992

INTERNATIONAL FILING DATE: June 2, 2004

FOR: POLYMER DISPERSION COMPRISING SILICON COMPOUNDS

REQUEST FOR PRIORITY UNDER 35 U.S.C. 119  
AND THE INTERNATIONAL CONVENTION

Commissioner for Patents  
Alexandria, Virginia 22313

Sir:

In the matter of the above-identified application for patent, notice is hereby given that the applicant claims as priority:

<u>COUNTRY</u>	<u>APPLICATION NO</u>	<u>DAY/MONTH/YEAR</u>
Germany	103 34 574.4	28 July 2003

Certified copies of the corresponding Convention application(s) were submitted to the International Bureau in PCT Application No. PCT/EP04/50992. Receipt of the certified copy(s) by the International Bureau in a timely manner under PCT Rule 17.1(a) has been acknowledged as evidenced by the attached PCT/IB/304.

Respectfully submitted,  
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